

CLAIM AMENDMENTS:

Pending Claims

Claim 1 (Currently Amended): An assembly comprising:

a generally circular cylindrical tube made of resilient material, ~~at least~~ a portion of said tube forming [[a]] an airtight outer circumferential boundary of a chamber;

first and second end cap assemblies supporting said tube at opposite ends thereof and forming respective end boundaries of said chamber; and

a fixed structure that supports said first and second end cap assemblies, said first and second end cap assemblies being rotatable relative to said fixed structure, wherein said fixed structure comprises a passageway that is in fluid communication with said chamber.

Claim 2 (Original): The assembly as recited in claim 1, wherein said fixed structure comprises an air shaft extending the full length of said tube and more, said air shaft comprising an inlet, said passageway and an outlet, said inlet being in fluid communication with said outlet via said passageway, and said chamber being in fluid communication with said passageway via said outlet.

Claim 3 (Original): The assembly as recited in claim 1, wherein each of said first and second end cap assemblies comprises a respective end cap and a respective bearing fitted into said respective end cap, said end caps forming substantially airtight interfaces with said tube.

Claim 4 (Original): The assembly as recited in claim 3, wherein each of said end caps is made of hard rubber molded around said respective bearing.

Claim 5 (Original): The assembly as recited in claim 1, wherein said tube is made of soft closed-cell rubber.

Claim 6 (Original): The assembly as recited in claim 1, wherein said tube resists radially outward deformation more than it resists radially inward deformation.

Claim 7 (Original): The assembly as recited in claim 1, wherein said tube comprises a multiplicity of annular transverse cuts extending from an inner peripheral surface of said tube toward, but not reaching, an outer peripheral surface of said tube.

Claim 8 (Original): The assembly as recited in claim 7, wherein each of said annular transverse cuts has a depth that is constant in a circumferential direction, said depth being the same for each of said annular transverse cuts.

Claim 9 (Original): The assembly as recited in claim 8, wherein said annular transverse cuts are axially spaced at equal intervals along said tube.

Claim 10 (Original): The assembly as recited in claim 3, wherein each of said bearings comprises a respective ring of ultra-high-molecular weight plastic material.

Claim 11 (Original): A roller setup comprising a hard roller and said assembly as recited in claim 1, said hard roller and said tube forming a nip.

Claim 12 (Canceled).

Claim 13 (Currently Amended): An assembly comprising:

an air shaft comprising an inlet, a passageway and an outlet, said inlet being in fluid communication with said outlet via said passageway;

a pneumatic roller rotatably mounted to said air shaft and configured to form an annular chamber surrounding a portion of said air shaft, said passageway of said air shaft being in fluid communication with said chamber via said outlet of said air shaft; and

first and second collars fixedly mounted to said shaft at respective positions adjacent opposite ends of said pneumatic roller; said first and second collars restricting axial movement of said pneumatic roller relative to said shaft without restricting rotational movement of said pneumatic roller about said shaft,

wherein said pneumatic roller comprises:

a generally circular cylindrical tube made of resilient material, at least a portion of said tube forming an airtight outer peripheral boundary of said chamber; and

first and second end cap assemblies rotatably mounted to said air shaft at opposite ends of said chamber, said first end cap assembly being fitted inside one end of said tube and said second end cap assembly being fitted inside the other end of said tube.

Claim 14 (Original): The assembly as recited in claim 13, wherein each of said first and second end cap assemblies comprises a respective end cap and a respective bearing fitted into said respective end cap, said end caps forming substantially airtight interfaces with said tube.

Claim 15 (Original): The assembly as recited in claim 14, wherein each of said end caps is made of hard rubber molded around said respective bearing.

Claim 16 (Original): The assembly as recited in claim 12, wherein said tube is made of soft closed-cell rubber.

Claim 17 (Original): The assembly as recited in claim 12, wherein said tube resists radially outward deformation more than it resists radially inward deformation.

Claim 18 (Original): The assembly as recited in claim 12, wherein said tube comprises a multiplicity of annular transverse cuts extending from an inner peripheral surface of said tube toward, but not reaching, an outer peripheral surface of said tube.

Claim 19 (Original): The assembly as recited in claim 18, wherein each of said annular transverse cuts has a depth that is constant in a circumferential direction, said depth being the same for each of said annular transverse cuts.

Claim 20 (Original): The assembly as recited in claim 19, wherein said annular transverse cuts are axially spaced at equal intervals along said tube.

Claim 21 (Original): A roller setup comprising a hard roller and said assembly as recited in claim 12, said hard

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roller and said pneumatic roller forming a nip.

Claims 22-32 (Canceled).